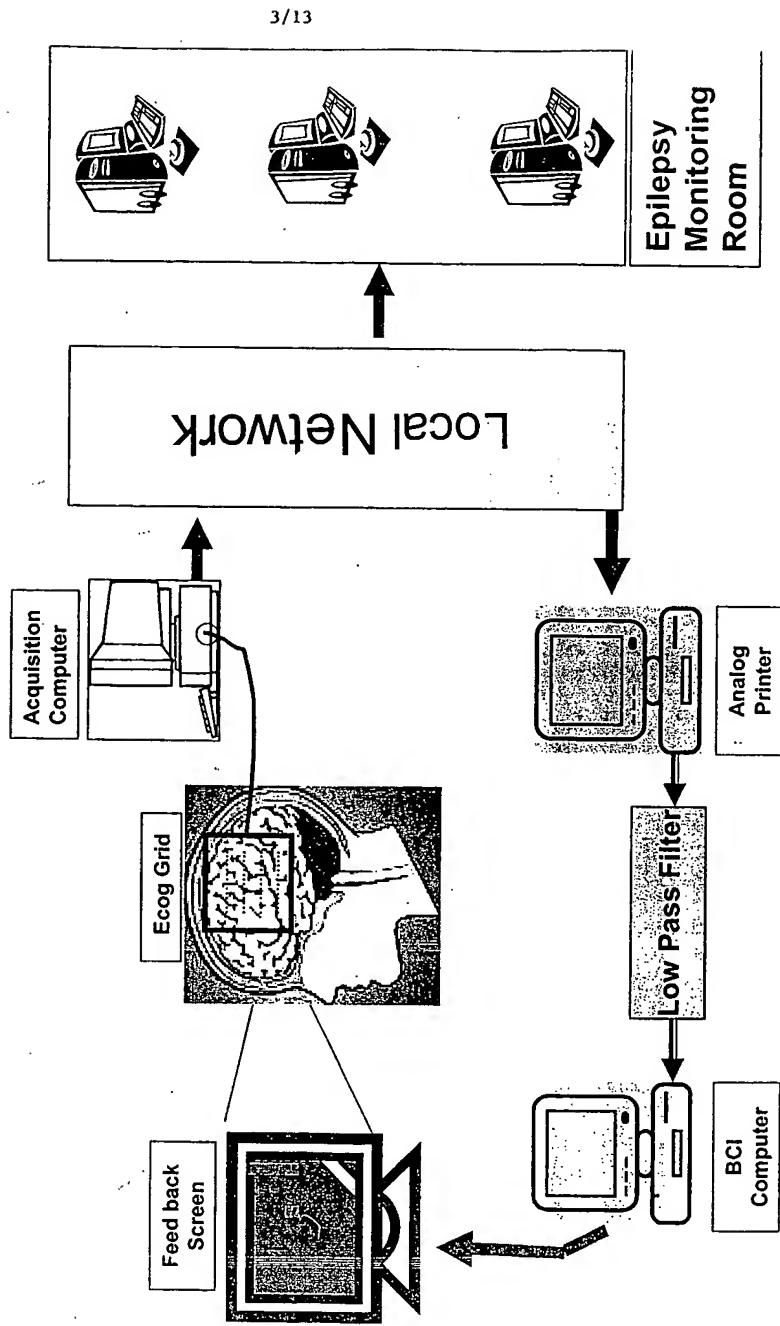


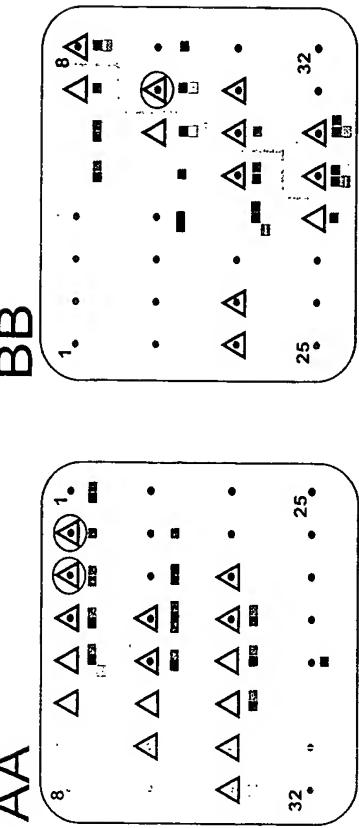


Figure 3a. Ecog BCI - System



BEST AVAILABLE COPY

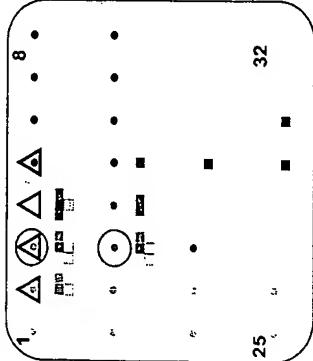
AA



△ Stimulation:
 • 2.3: right thumb tingling
 • 4.5.6.12.13.: facial twitching and tongue retraction
 • 19.20.21: tongue retraction
 • 14.15: forearm supination
 • 22.23.24: speech arrest

○ Closed Loop Electrodes:
 • 2.3: Open & closing right hand

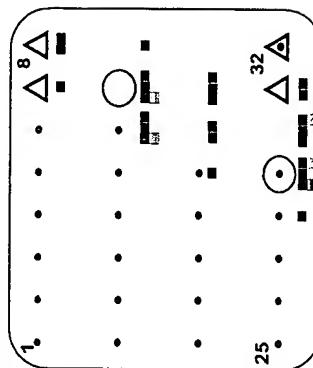
CC*



△ Stimulation:
 • 2.3: right thumb tingling
 • 4.5.6.12.13.: facial twitching and tongue retraction
 • 19.20.21: tongue retraction
 • 14.15: forearm supination
 • 22.23.24: speech arrest

○ Closed Loop Electrodes:
 • 2.3: Open & closing right hand

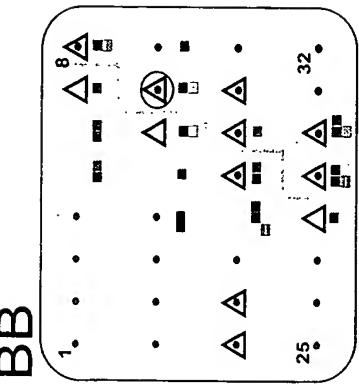
DD*



△ Stimulation:
 • 7.8: thumb twitching
 • 14.15: jaw twitching
 • 21.22.23.28.29.30: tongue retraction
 • 17.18: Speech Arrest

○ Closed Loop Electrodes:
 • 15: Imagine open & closing right hand

BB

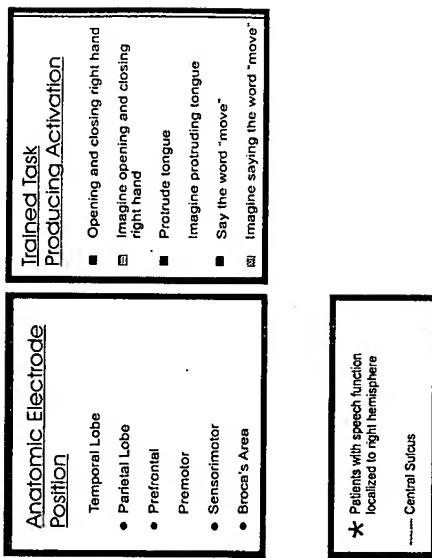


△ Stimulation:
 • 7.8: thumb twitching
 • 14.15: jaw twitching
 • 21.22.23.28.29.30: tongue retraction
 • 17.18: Speech Arrest

○ Closed Loop Electrodes:
 • 15: Imagine open & closing right hand

8/13

Figure 7



△ Stimulation:
 • 2.3: right thumb tingling
 • 4.5.6.12.13.: facial twitching and tongue retraction
 • 19.20.21: tongue retraction
 • 14.15: forearm supination
 • 22.23.24: speech arrest
 • 3.11: Imagine saying the word "move"

○ Closed Loop Electrodes:
 • 2.3: Open & closing right hand
 • 15.29: Say the word "move" & imagine saying the word "move"
 • 29: Tongue protrusion & imagined tongue protrusion

△ Stimulation:
 • 7.8: right facial twitching
 • 31.31: jaw twitching
 • 15.29: Say the word "move" & imagine saying the word "move"

○ Closed Loop Electrodes:
 • 15.29: Say the word "move" & imagine saying the word "move"
 • 29: Tongue protrusion & imagined tongue protrusion

Figure 9

10/13

Prediction of Final Cursor Position

Patient	Self	# trials	$r^2(x)$	$r^2(y)$	$r^2(x)$	$r^2(y)$	$r^2(x)$	$r^2(y)$
1st half->2nd half								
Patient DD: 4 targets	0.61	0.57	556	0.45	0.45	0.54	0.49	
interlaced								
Patient DD: 8 targets	0.65	0.26	924	0.50	0.06	0.59	0.10	
Patient BB: 4 targets	0.47	0.45	326	0.02	0.14	0.13	0.11	

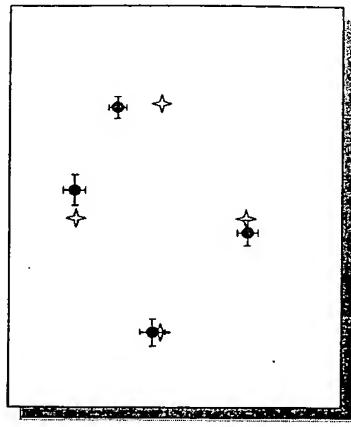
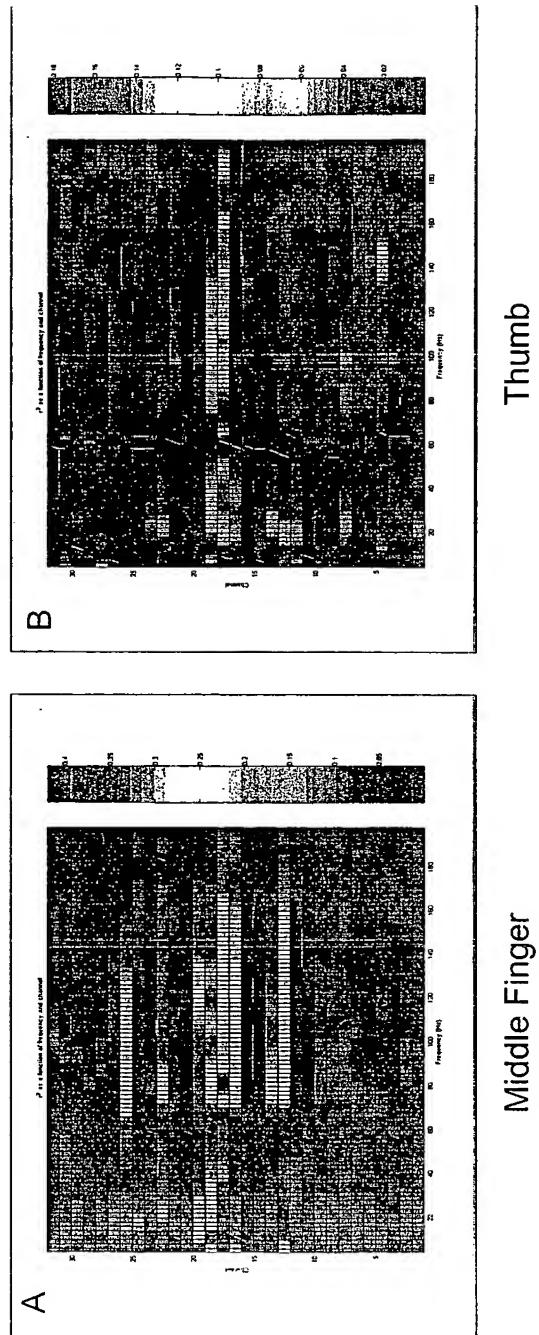


Figure 11



BEST AVAILABLE COPY

Figure 12: Analysis of Motor Speech

